

REMARKS

The present application relates to hybrid maize plant and seed 33T17. Claims 1-32 are currently pending in the present application. 6, 7, 10, 11, 14, 15, 18, 19, 23-25, 27-29, 31, and 32 have been amended. Applicant respectfully requests consideration of the following remarks.

CLAIM OBJECTIONS

The Examiner objects to claims 1, 5, 7, and 10 for informalities. Claims 1, 5, and 7 are objected to for the inclusion of a blank line where the ATCC accession number should be. With regard to deposit of Hybrid 33T17, Applicant wishes to note that:

- a) during the pendency of this application access to the invention will be afforded to the Commissioner upon request;
- b) all restrictions upon availability to the public will be irrevocably removed upon granting of the patent;
- c) the deposit will be maintained in a public depository for a period of thirty years, or five years after the last request for the enforceable life of the patent, whichever is longer;
- d) a test of the viability of the biological material at the time of deposit will be conducted (see 37 C.F.R. § 1.807); and
- e) the deposit will be replaced if it should ever become inviable.

Applicant wishes to state that the actual ATCC deposit will be delayed until the receipt of notice that the application is otherwise in condition for allowance. Once such notice is received, an ATCC deposit will be made, and the claims will be amended to recite the ATCC deposit number. In addition, Applicant submits that at least 2,500 seeds of Hybrid 33T17 will be deposited with the ATCC.

Claim 10 is objected to for a colon after the term "of" in line two. Applicant has removed the colon as per the Examiner's suggestion.

REJECTIONS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

Claims 6,7,10,11,14,15,18,19,23,24,25,27,28,29,31 and 32 stand rejected under 35 U.S.C. § 112, second paragraph, "as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention."

At claim 6 the Examiner states that the term "the protoplasts" lacks proper antecedent basis. Claim 6 has been amended to correct this oversight.

At claims 7, 11, 15, 19, 24, 28, and 32 the Examiner has stated that the recitation of "capable of expressing" in each of these claims renders them indefinite. Each of these claims has been amended to remove the objectionable phrase.

At claims 10, 14, 18, 23, 27, and 31 the phrase "The maize plant breeding program" lacks proper antecedent basis as the preceding claims from which they depend refer to a method rather than a "breeding program". Each of these claims has been amended to refer to its preceding claim as a method.

Claims 11, 15, 19, 24, 28, and 32 stand rejected and being indefinite for use of terms such as exceptional yield ability, high quality, above average Gray Leaf Spot tolerance, good tolerance to Fusarium Ear Rot, and particularly suited which the Examiner states do not define the metes and bounds of the invention. Each of these claims have been amended to indicate a reference plant of claim 33T17 stating that is trait is "not significantly different than" 33T17 at 5% significance when grown in the same environmental conditions. This provides a reference plant as well as a statistical measure by which the trait can be compared.

At claims 25 and 29 the phrase "A hybrid maize plant was found indefinite. The claim have been amended per the Examiner's suggestion to state "The hybrid maize plant".

Issues Under 35 U.S.C. § 102/103

Claims 1-32 stand rejected under 35 U.S.C. §102(e) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Cunnyingham (US Patent No 6,087,564). The examiner asserts that Cunnyingham teaches the hybrid maize plant 34P93 and seed having white kernel and cob color, dark green leaves and light green silk color. The

Examiner also notes that Cunnyingham teaches a method for developing maize plant in a maize plant breeding program and concludes it would be prima facie obvious to modify Cunnyingham to develop the hybrid maize plant of the instant application.

Applicant respectfully traverses. When looking at maize plants it would be possible to find many traits that are similar between varieties such as the disease resistance or growth habit. However, to say that there are similarities in phenotype between two varieties is not the same as saying that the two varieties had the same morphological and physiological characteristics as a whole, or that one is an obvious variant of the other. Further, similarity in phenotype does not mean that the two varieties will perform similarly, in identical environmental conditions or more particularly, in a breeding program. The claims as amended recite a specific reference variety and a specific statistical test which may be performed to determine whether in fact the traits observed are actually the "same".

Any phenotypic trait that is expressed in the claimed plants is a result of a combination of all of the genetic material present in the 33T17 plant, and 33T17 will have its own unique genetic profile that it will contribute to a breeding program. This unique genetic background will result in the claimed plant and this profile and its combination with other plants will result in a unique combined genetic profile that is the product claimed.

Claims 11, 15, 19, 24, 28, and 32, remain rejected under 35U.S.C. 102(e) as anticipated by or, in the alternative, as obvious under 35 U.S.C. 103(a) over Cunnyingham. The Examiner notes that these claims are taught by Roundy as the patent teaches a hybrid having good tolerance to Fusarium Ear Rot and high quality. The Examiner notes that the maize plant from Cunnyingham differs from the claimed plant only in its derivation from 33T17. The Examiner concludes that the process of making the claimed plants does not distinguish the plants themselves from those taught by the reference.

Applicant respectfully traverses and requests reconsideration of claims 11, 15, 19, 24, 28, and 32 as amended herein. A plant with the combination of two of these traits is not rendered anticipated or obvious from Cunnyingham. It would require undue experimentation to begin with the hybrid of Cunnyingham which has its own unique combination of traits to

breed with it to recover a hybrid with at least two of the traits enumerated in claims 11, 15, 19, 24, 28, and 32. Further, there is no expectation of success that the crossing of the hybrid of Cunnynggham with some yet to be identified plant would yield a plant with two of the traits enumerated in the claim. Each generation would bring a random combination of traits and there is no expectation that the claimed combination could be achieved at all. Without any teaching about dominance, or heritability of such traits it cannot be said that there is an expectation of success that the combination of plants would achieve the combination enumerated in the claim, to say nothing of issues such as inbreeding depression etc. The laborious process of breeding to generate a hybrid is disclosed in the specification and to assume that another hybrid can be bred to generate the same grouping of traits is speculation at best.

Further, applicant notes that it is impermissible to use hindsight reconstruction and the benefit of applicants disclosure to cherry pick among pieces which are present in the art, there must be some suggestion to make the combination and an expectation of success. In re Vaeck 20 U.S.P.Q.2d 1434 (Fed. Cir. 1991). It must be recognized that the 33T17-derived plants are themselves unusual and a nonobvious result of a combination of previously unknown and nonobvious genetics. In addition to the phenotypic traits described herein, each 33T17-derived plant has an additional benefit unique to each specific cross using 33T17 as one of its ancestors. Thus, they deserve to be considered new and nonobvious compositions in their own right as products of crossing when 33T17 is used as a starting material.

CONCLUSION

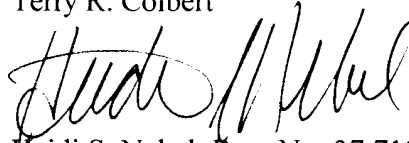
Applicant submits that, in light of the foregoing amendments and remarks, the claims, as amended, are in condition for allowance. Reconsideration and early notice of allowability are respectfully requested.

No fees or extensions of time are believed to be due in connection with this amendment; however, consider this a request for any extension inadvertently omitted, and charge any additional fees to Deposit Account No. 26-0084.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with markings to show changes made.**"

Reconsideration and allowance is respectfully requested.

Respectfully submitted,
Terry R. Colbert

A handwritten signature in cursive script, appearing to read "Heidi S. Nebel".

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AMENDMENT — VERSION WITH MARKINGS
TO SHOW CHANGES MADE

In the Claims

Claims 6, 7, 10, 11, 14, 15, 18, 19, 23-25, 27-29, 31, and 32 have been amended as follows:

6. (Amended)

A tissue culture according to claim 5, [the] cells or protoplasts of the tissue culture being from a tissue selected from the group consisting of leaves, pollen, embryos, roots, root tips, anthers, silks, flowers, kernels, ears, cobs, husks, and stalks.

7. (Amended)

A maize plant, or its parts, regenerated from the tissue culture of claim 5 [and capable of expressing all the morphological and physiological characteristics of hybrid maize plant 33T17, representative seed having been deposited under ATCC accession number _____].

10. (Amended)

The [maize plant breeding program] method of claim 9 wherein plant breeding techniques are selected from the group consisting of: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, genetic marker enhanced selection, and transformation.

11. (Amended)

A maize plant, or its parts, wherein at least one ancestor of said maize plant is the maize plant, or its parts, of claim 2, said maize plant [capable of] expressing a combination of at least two [33T17] traits which are not significantly different from 33T17 when determined

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at a 5% significance level and when grown in the same environmental conditions, said traits selected from the group consisting of: a relative maturity of approximately 113 based on the Comparative Relative Maturity Rating System for harvest moisture of grain, [exceptional] yielding ability, [high] food grade quality, white food grade grain, [with high] test weight, [above average] Gray Leaf Spot tolerance [for a white grain hybrid], [good] tolerance to Fusarium Ear Rot, and [particularly] suited to the Southcentral region of the United States.

14. (Amended)

The [maize plant breeding program] method of claim 13 wherein plant breeding techniques are selected from the group consisting of: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, genetic marker enhanced selection, and transformation.

15. (Amended)

A maize plant, or its parts, wherein at least one ancestor of said maize plant is the maize plant, or its parts, of claim 12, said maize plant [capable of] expressing a combination of at least two [33T17] traits which are not significantly different from 33T17 when determined at a 5% significance level and when grown in the same environmental conditions, said traits selected from the group consisting of: a relative maturity of approximately 113 based on the Comparative Relative Maturity Rating System for harvest moisture of grain, [exceptional] yielding ability, [high] food grade quality, white food grade grain, [with high] test weight, [above average] Gray Leaf Spot tolerance [for a white grain hybrid], [good] tolerance to Fusarium Ear Rot, and [particularly] suited to the Southcentral region of the United States.

18. (Amended)

The [maize plant breeding program] method of claim 17 wherein plant breeding techniques are selected from the group consisting of: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, genetic

marker enhanced selection, and transformation.

19. (Amended)

A maize plant, or its parts, wherein at least one ancestor of said maize plant is the maize plant, or its parts, of claim 16, said maize plant [capable of] expressing a combination of at least two [33T17] traits which are not significantly different from 33T17 when determined at a 5% significance level and when grown in the same environmental conditions, said traits selected from the group consisting of: a relative maturity of approximately 113 based on the Comparative Relative Maturity Rating System for harvest moisture of grain, [exceptional] yielding ability, [high] food grade quality, white food grade grain, [with high] test weight, [above average] Gray Leaf Spot tolerance [for a white grain hybrid], [good] tolerance to Fusarium Ear Rot, and [particularly] suited to the Southcentral region of the United States.

23. (Amended)

The [maize plant breeding program] method of claim 22 wherein plant breeding techniques are selected from the group consisting of: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, genetic marker enhanced selection, and transformation.

24. (Amended)

A maize plant, or its parts, wherein at least one ancestor of said maize plant is the maize plant, or its parts, of claim 20, said maize plant [capable of] expressing a combination of at least two [33T17] traits which are not significantly different from 33T17 when determined at a 5% significance level and when grown in the same environmental conditions, said traits selected from the group consisting of: a relative maturity of approximately 113 based on the Comparative Relative Maturity Rating System for harvest moisture of grain, [exceptional] yielding ability, [high] food grade quality, white food grade grain, [with high] test weight, [above average] Gray Leaf Spot tolerance [for a white grain hybrid], [good]

tolerance to Fusarium Ear Rot, and [particularly] suited to the Southcentral region of the United States.

25. (Amended)

[A] The hybrid maize plant according to claim 20, wherein the genetic material of said plant contains one or more transgenes.

27. (Amended)

The [maize plant breeding program] method of claim 26 wherein plant breeding techniques are selected from the group consisting of: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, genetic marker enhanced selection, and transformation.

28. (Amended)

A maize plant, or its parts, wherein at least one ancestor of said maize plant is the maize plant, or its parts, of claim 25, said maize plant [capable of] expressing a combination of at least two [33T17] traits which are not significantly different from 33T17 when determined at a 5% significance level and when grown in the same environmental conditions, said traits selected from the group consisting of: a relative maturity of approximately 113 based on the Comparative Relative Maturity Rating System for harvest moisture of grain, [exceptional] yielding ability, [high] food grade quality, white food grade grain, [with high] test weight, [above average] Gray Leaf Spot tolerance [for a white grain hybrid], [good] tolerance to Fusarium Ear Rot, and [particularly] suited to the Southcentral region of the United States.

29. (Amended)

[A] The hybrid maize plant according to claim 20, wherein the genetic material of said plant contains one or more genes transferred by backcrossing.

31. (Amended)

The [maize plant breeding program] method of claim 30 wherein plant breeding techniques are selected from the group consisting of: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, genetic marker enhanced selection, and transformation.

32. (Amended)

A maize plant, or its parts, wherein at least one ancestor of said maize plant is the maize plant, or its parts, of claim 29, said maize plant [capable of] expressing a combination of at least two [33T17] traits which are not significantly different from 33T17 when determined at a 5% significance level and when grown in the same environmental conditions, said traits selected from the group consisting of: a relative maturity of approximately 113 based on the Comparative Relative Maturity Rating System for harvest moisture of grain, [exceptional] yielding ability, [high] food grade quality, white food grade grain, [with high] test weight, [above average] Gray Leaf Spot tolerance [for a white grain hybrid], [good] tolerance to Fusarium Ear Rot, and [particularly] suited to the Southcentral region of the United States.